

# NutritionTimes

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## Dietary Supplements Sold for Weight Loss and Increased Energy Can Be Dangerous

By Julie Mortimore, MPH, RD

**Illegal substance disguised.** Which dietary supplement is currently unregulated despite its chemical similarity to methamphetamine? Ephedrine is a close chemical cousin of the stimulant methamphetamine and has been used to add bulk to cocaine for sale on the street. Many people do not know that the chemical structure of this common ingredient in food supplements closely resembles that of the illegal street drug methamphetamine.

**What is ephedra (or ephedrine)?** Ephedrine is an alkaloid that can be obtained from the stems and aerial portions of various plant species of ephedra. This drug acts as a stimulant of neurotransmitters, which are chemicals that facilitate the passage of impulses between the nerve cells in the brain. This drug has a similar function of other stimulant drugs, such as methamphetamine, yet because ephedrine is derived from an herb, commonly called Ma Huang, it is regulated under the Dietary Supplements Health Education Act (DSHEA) of 1994. Under DSHEA, manufacturers of dietary supplements do not have to prove that their product is safe or effective before it reaches consumers.

**Ancient Uses.** Proponents of ephedra, or Ma Huang, like to boast that the herb has been used in Chinese herbal medicine since 2000 BC. While this is true, what they fail to mention is that the Chinese were very cautious when they used this as an herbal medication. The Chinese discourage its use as a diet aid or in conjunction with natural caffeine sources. And, they do not recommend its use for long periods of time. Much to the misfortune of wary consumers today, the suggested use is often for weight loss or to boost energy, and it is often combined with multiple herb ingredients that contain caffeine.

**Side effects.** Since this herb acts as a stimulant on the central nervous system it increases heart rate and blood pressure. The effects of ephedrine range from significant

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## Low Carbohydrate Diets

By Ellen Coleman, MS, MPH, RD

The shared theme of many popular weight-loss books (*Dr. Atkins' New Diet Revolution*, *Protein Power*, *Carbohydrate Addict's Lifespan Program*, *Sugar Busters*, and *Enter the Zone*) is that carbohydrates cause obesity. These diet books claim that carbohydrates are bad because they raise the blood sugar level and cause the release of insulin—a supposed “monster” hormone that promotes fat storage.

Dr. Atkins' low-carbohydrate, ketogenic diet was first published in 1972 and recycled 20 years later in 1992 as *Dr. Atkins' New Diet Revolution* (M. Evans and Company). Robert Atkins, MD, asserts that obesity exists primarily because of metabolic reasons and that restricting carbohydrate can circumvent this metabolic defect. According to Atkins, individuals can lose more weight by eating a high fat diet than with an equivalent energy intake from a high carbohydrate diet. Atkins recommends no more than 20 grams of carbohydrate per day during the induction phase (two weeks) and recommends daily urine tests to verify the maintenance of the ketosis. He strongly emphasizes high fat foods and avoidance of fruits, vegetables, breads, cereals, and most dairy products.

### PROTEIN POWER

The authors of *Protein Power* (Bantam Books, 1996), Michael Eades, MD, and Mary Eades, MD, target insulin as the cause of obesity. The Eades believe that high levels of insulin cause metabolic disturbances in the body leading to hypertension, elevated serum cholesterol and triglyceride levels, diabetes, and obesity. They suggest that restricting carbohydrate overcomes these metabolic disturbances and alleviates medical problems.



The *Protein Power* diet closely resembles the Atkins diet in nutrient composition. The Eades say that it's fine to eat steak, pork ribs, and other fatty meats as long as people don't load up on starch and sugar at the same time. All that saturated fat is a recipe for clogged arteries. The authors outline methods to determine the amount of protein to consume and give instructions for planning meals that focus on protein. Carbohydrates are limited to 30 grams or less per day. The diet permits limited amounts of fruit and vegetables.

The authors of *Carbohydrate Addict's Lifespan Program*, Richard and Rachael Heller, claim that an excess of insulin (“hunger hormone”) causes the “carbohydrate addict” to experience intense and recurrent cravings and a heightened ability to store fat. The book claims that carbohydrates crank up insulin production, increase appetite, promote fat storage, and cause weight gain.

### CARBOHYDRATE ADDICT'S

The *Carbohydrate Addict's* “Basic Plan” has three essential guidelines: 1) eat a balanced Reward meal every day (one-third craving reducing protein, one-third craving reducing vegetables, one-third carbohydrate rich food; preceded by two cups salad), 2) complete Reward meal within one hour, and 3) eat only craving reducing foods at all other meals and snacks. Following these rules permanently is unlikely for even the most dedicated dieter and takes the pleasure out of eating by treating food as a medical prescription. Furthermore, research does not support the notion of biological “carbohydrate addiction.”



### SUGAR BUSTERS

The authors of *Sugar Busters!* (Ballantine Publishing Group; 1998) H.



Leighton Steward, Morrison Bethea, MD, Sam Andrews, MD, and Luis Balart, MD, claim that sugar is toxic. The premise

of the book is that insulin insensitivity causes obesity and non-insulin dependent diabetes. The Sugar Busters diet focuses on reducing high glycemic carbohydrates (insulin-stimulating carbohydrates) to lower insulin levels and decrease insulin resistance.

The authors recommend that beverages be consumed in small portions during meals. They claim that “washing” food down leads to inadequate chewing and that excess fluid dilutes digestive juices, resulting in partially digested food. There is no scientific evidence to suggest that consuming fluids during a meal negatively affects digestion.

### THE ZONE

The Zone is defined as the seemingly effortless, euphoric state where body and mind work at peak efficiency. While in the Zone, people can achieve permanent weight loss and optimum health. The author of *Enter the Zone* (Harper-Collins, 1997) and *Mastering the Zone* (Harper-Collins, 1997) Barry Sears, PhD, attributes these benefits to altering the production of eicosanoids with the Zone diet.



The major theme of the book is relatively simple-carbohydrates are bad

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# Low Carbohydrate Diets

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because they raise the blood glucose level and cause the release of insulin, resulting in obesity. Sears further claims that a carbohydrate-rich diet increases disease-promoting "bad" eicosanoids, while a Zone-favorable diet increases health—promoting "good" eicosanoids. To enter the Zone, food should be treated as a drug—it must be eaten in a controlled fashion and in the proper proportions. Specifically, this means eating exactly 40% of calories as carbohydrate, 30% as protein, and 30% as fat at each meal and snack.

The Zone diet focuses on lean meats and can include three servings of fowl per day but restricts high fat animal products, high glycemic grain products (grains, breads, pasta and rice), starchy vegetables, and some fruits.

There is no evidence that the 40-30-30 macronutrient composition of the Zone diet has an effect on body weight independently of the energy content of the diet. There is also no proof that carbohydrate makes "bad" eicosanoids or that the Zone diet makes "good" eicosanoids.

An effective weight reduction program includes a nutritionally adequate, reduced energy intake as well as an increase in physical activity. The loss of body fat is proportional to the energy deficit—no specific distribution of dietary protein,

carbohydrate, and fat has been shown to promote more rapid weight loss than other distributions. When energy expenditure exceeds energy intake, weight loss will occur regardless of the macronutrient composition of the diet.

Carbohydrates and insulin don't cause obesity and insulin is not a "monster" hormone. What matters for weight loss is not carbohydrates and insulin, but calories. Body weight depends on calorie balance—how many calories are consumed compared to how many are expended. Eating a high percentage of calories from carbohydrate does not promote fat storage—a person must eat too many calories relative to energy needs. For some people, a very high carbohydrate diet can raise insulin levels, and high insulin levels increase the risk of heart disease. However, there is no good evidence that high insulin levels make people fat.

There's nothing magical about these high protein, low carbohydrate—regimens—they're just low-calorie diets. People lose weight on these diets because of the caloric restriction—not because of what is supposedly happening to their insulin levels. For example, although *Enter the Zone* says "don't focus on calories," the Zone diet provides only 800 to 1200 kcal a day for the average person.

Although the books claim to make people thinner, they actually make long term compliance difficult and take the fun out of eating. Most professional health groups in the country recommend 55 to 60% calories as carbohydrate, 10-15% as protein, and 30% or less as fat.

Weight loss eating plans should meet the criteria for a "healthy diet," as defined by the *2000 Dietary Guidelines for Americans* and the *2000 American Heart Association Dietary Guidelines*. The low carbohydrate diets advocated by these books fail because they are too high in total fat and saturated fat (except for the Sugar Busters and Zone diets) and don't supply adequate dietary carbohydrate, vitamins, minerals, and fiber. Such diets are also contrary to the scientific evidence that consuming a diet rich in plant foods such as whole grains, fruits, vegetables, and beans helps to prevent many chronic diseases, including coronary heart disease and cancer.

Nutrition recommendations should be supported by scientific research that is double-blind, placebo-controlled, and published in peer-reviewed journals. These diet books, however, abound with unproven claims based on case histories, testimonials, and unpublished studies.

## trEAT Yourself to Healthier Dining



*By Susan Goldstein, co-author and regional director of Healthy Dining*

**"If you don't smoke, what you eat may be the biggest factor influencing your health"** (U.S. Surgeon General). This is a startling announcement! Especially since Americans eat out 4-5 times a week and spend 48% of food dollars away from home (increasing to an estimated 53% in 2010). As we continue to dine out more often for business, pleasure, and convenience, making healthy choices in restaurants is absolutely essential to our health and well-being.

In Orange County, there is exciting news...many popular restaurants are meeting today's growing desire for healthier eating

with dishes that taste sensational. Over the past decade, *Healthy Dining* has teamed up with hundreds of restaurants to analyze their items for nutrition content (calories, fat, cholesterol, sodium, protein, carbohydrates, and food exchanges) and guide consumers to these selections, featured in the *Healthy Dining in Orange County* book. More and more chefs are rising to the challenge of creating meals with our health and taste buds in mind.

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# trEAT Yourself to Healthier Dining

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How? Menu items are expertly prepared with little or no butter, cream or salt. Fresh and seasonal ingredients are combined with bold seasonings and spices. Fruits and vegetables take "center stage" on the plate, or as main ingredients in sauces, stocks and purees. For side dishes, instead of the typical french fries or onion rings, whole grains and fresh produce burst with color, taste, and texture.

You can find many terrific choices like these in the *Healthy Dining in Orange County* book, such as:

"Lite Chicken with Garlic and Snow Peas" at **Chin Chin** in Mission Viejo (opening soon in Tustin). Velvety pieces of chicken breast tossed with snow peas, fresh mushrooms, carrots, and sliced garlic. 520 calories, 12 grams fat, 150 mg cholesterol, 61 grams protein.

"Branzino In Guazetto" at **Antonello Ristorante** in Santa Ana. Sea bass cooked in tomatoes, oregano, and white wine. 465 calories, 19 grams fat, 95 mg cholesterol, 46 grams protein.

"Organic Mexican Corn Chowder" at **The Health Emporium Market & Grille** in Corona del Mar. One of many popular soups, freshly prepared on the premises using all organic ingredients. 325 calories, 3 grams fat, 0 mg cholesterol, 10 grams protein.

With *Healthy Dining*, it's a whole new world of delicious dining and optimal health! Here are seven simple steps you can take this summer...and all year 'round...to trEAT yourself to healthier dining:

1. **Look over the menu and when it's time to order, ask questions.** Find out exactly what comes with the meal and ask for substitutions. A broiled filet of sole turns into a diet disaster when accompanied by creamy coleslaw and french fries. Ask for alternatives like fresh fruit, garden salad, or steamed veggies.
2. **Select dishes that require little or no added fat, such as broiled, baked, or steamed.** Many entrees may contain hidden butter, oil, or salt, so it's important to request that little or none be added. Also ask or look for an explanation of items labeled as healthy, natural, low-fat, etc. In general, these words have no standardized meaning on menus.
3. **Request that sauces, dressings, or toppings be served on the side or in a lower-fat version.** Then, use these

sparingly—a light touch can add a surprising amount of flavor. Also learn which "special requests" keep the taste in and the extra fat and calories out. The *Healthy Dining* books highlight many special requests.

For example, at **California Pizza Kitchen**, you can "special request" the Broccoli Sundried Tomato Fusilli with "no oil" and save 475 calories and 54 grams of fat (corkscrew pasta with fresh broccoli, browned garlic, sundried tomatoes, fresh thyme and Parmesan cheese).

4. **During your meal, eat slowly.** Relish the atmosphere, the company, the occasion, and by all means the food! Take time to enjoy everything about your meal, expertly prepared and served to give you the best possible dining experience.
5. **Consider sharing an entree or taking part home for lunch or dinner the next day.** Most restaurant portions are large and getting larger. It's shocking but true...restaurant meals often contain 1000-2000 calories and 50-100 grams of fat. That's more than a full day's allowance of fat, and close to a full day's intake of calories, in just one meal.

6. **Take a moment to compliment the server and manager when you're pleased with your visit.** Restaurants that honor our health and take active steps to provide satisfying meals need to hear that their efforts are important and appreciated. Restaurants listen to you, the consumer, and they respond. Your voice is powerful...and can help lead the way to healthier cuisine that will dazzle and delight!

7. **Finally, experiment at home to re-create healthy restaurant recipes you've enjoyed.** (See page 6.)

**Healthy Dining's vision is to enhance the health and well-being of Americans by propelling a shift toward restaurant cuisine that combines the best in both taste and health.**

Susan Goldstein is co-author and regional director of Healthy Dining. For information on *Healthy Dining in Orange County* (easy-to-read "nutrition labels" on hundreds of menu items, chefs' recipes, dining tips, and \$500 in coupons), visit [www.healthy-dining.com](http://www.healthy-dining.com) or contact [susan@healthy-dining.com](mailto:susan@healthy-dining.com) (949) 854-1475. Wholesale book rates, seminars, food tastings, and customized learning tools are also available.



# Dietary Supplements Can Be Dangerous

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adverse effects such as heart attack, stroke, seizures, psychosis, and even death to less significant effects of dizziness, headache, gastrointestinal distress and irregular heartbeat. Adverse reactions reported to the American Association of Poison Control Centers doubled between 1997 and 1999, jumping from 211 to 407. Between 1993 and 2001, there were 81 deaths associated with ephedra use, mostly from stroke.

**Are you at risk?** Although ephedrine has been proven safe and effective in the treatment of bronchial asthma and is found in many over-the-counter cold and allergy medications used as a nasal decongestant, it has not enjoyed the same reliability when used for weight loss or as an energy booster.

Dangerous consequences are often dependent on the dose taken. Serious drug-herb interactions can occur when ephedrine is combined with monoamine oxidase (MAO) inhibitors and non-steroidal anti-inflammatory drugs. MAOIs (e.g., phenelzine, pargyline, selegiline) are often prescribed for the treatment of depression and mood disorders. Combining MAOIs with ephedrine can give rise to a hypertensive crisis resulting in stroke or myocardial infarction.

Another potentially hazardous drug interaction with ephedrine involves the use of non-steroidal anti-inflammatory drugs or NSAIDs (such as aspirin, indomethacin and ibuprofen). Here the two drugs potentiate each other's actions and have been associated with episodes of severe hypertension.

Along with users of the previous medications, individuals are at higher risk if they have the following health conditions: heart disease, high blood pressure, diabetes, thyroid or kidney problems, history of seizures, psychosis, anxiety disorders, or women who are pregnant or lactating.

**Studies.** In December 2000, the New England Journal of Medicine (NEJM) examined the adverse cardiovascular and central nervous system events associated with dietary supplements containing ephedrine alkaloids (Haller and Benowitz). Records from 140 case reports of users who experienced complications between 1997 and 1999 were reviewed. The results showed that one-third of the patient complications were definitely or probably caused by ephedra, while another one-third showed that ephedra was the possible cause of such problems. The researchers noted that most of the people studied were healthy, young people, some of whom had been taking ephedra as directed for only a few days.

Another recent study (Gurley, 2000) analyzed the amount of ephedra alkaloids in 20 products and found that they contained zero to over 150 percent of the amount of ephedrine listed on the label.

**What You Can Do.** A bill that provides greater consumer protection for ephedrine products, SB 397, has passed the Senate and now awaits approval from the Assembly Appropriation Committee. SB 397 would require full disclosure of content on the label, a warning statement of health conditions and drugs that contraindicate use, and a toll-free number to the FDA MedWatch on each label for consumers to report adverse reactions. It would also prohibit its sale to minors. If you would like to let your state assembly representative know how you feel about this proposal, go to [www.leginfo.ca.us](http://www.leginfo.ca.us) for a committee directory.

Vigilant reporting by consumers and healthcare professionals of adverse reactions due to the use of dietary supplements is necessary to establish

better consumer protection laws. You can play a vital role in this process simply by reporting your own experiences and directing other injured persons to the FDA MedWatch reporting system, (800) FDA-1088, or go to [www.fda.gov/medwatch](http://www.fda.gov/medwatch).

**Closing Thoughts.** Remember that dietary supplements are sold in the same marketing atmosphere (commonly called caveat emptor or "let the buyer beware") as other goods and services, such as cars, appliances, or automotive repair. Don't assume that because these types of products can affect our health that their safety and efficacy is safeguarded. It's not. This is not a reason to forego the use of all dietary supplements. However, it is the reason to develop a "healthy skepticism" toward nutrition-related products and services in the marketplace.

**Bottom line:** Steer clear of products that contain ephedra or Ma Huang for weight loss or to boost energy.

*For more information, please call: Julie Mortimore, RD, Coordinator, Nutrition Quackery Prevention Program, San Bernardino County Department of Public Health (909) 387-6331.*



The following recipe comes from the current edition of *Healthy Dining in Orange County*.  
Bon Appetit!

#### BLACK & BLUE PEPPERCORN SESAME HAWAIIAN AHI

$\frac{2}{3}$ cup Jasmine rice, uncooked	2 Tbs. olive oil
2 tsp. unsalted butter	2 oz. fresh chopped ginger (4 Tbs.)
pinch kosher salt	1 tsp. garlic
1 $\frac{1}{2}$ lbs. high quality ahi tuna	4 Tbs. soy sauce
4 Tbs. sesame seeds	4 cups arugula or mixed lettuce
4 tps. crushed pepper	Papaya relish (optional, not in analysis)

1. Cook rice according to package instructions, adding butter and kosher salt.
2. Divide ahi into 4 portions and roll in mixture of sesame seeds and crushed pepper.
3. Heat 1 Tbs. olive oil in saute pan. Sear ahi on medium high heat, turning carefully to cook ahi rare yet evenly on all sides. Set ahi aside.
4. Heat remaining 1 Tbs. oil and saute ginger and garlic.
5. Add arugula and soy sauce. Toss quickly and saute just until greens wilt. Remove.
6. Slice ahi into thin medallions and arrange on top of the Jasmine rice.
7. Top with arugula and add papaya relish for an exotic touch. Serves 4.

From 230 Forest Avenue (per serving: 445 calories, 15 grams fat, 80 mg cholesterol, 46 grams protein, 29 grams carbohydrate).

# NutritionTimes



The Nutrition Times newsletter is published biannually by the Orange County Nutrition Alert Coalition of the County of Orange Health Care Agency, Nutrition Services Program.

It is intended to keep the public and consumers informed on reliable nutrition information. The coalition is dedicated to the promotion of optimal health and nutrition through consumer education and awareness.

- Editor -

*Leigh Anne Rice, MPH, RD, CLE*

**Send Your Comments and  
Suggestions to:**

**Nutrition Services**

Phone: (714) 834-7704

Fax: (714) 834-8028

Email: [lrice@hca.co.orange.ca.us](mailto:lrice@hca.co.orange.ca.us)

Pony: Building #50



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